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ABSTRACT

The process of implementing change is extremely complicated, particularly when multiple innovations are being introduced simultaneously. Conflicting views exist regarding provincial versus local priorities, and available resources are declining. This report is a summary of a Master's thesis that analyzed the implementation process employed in 13 Saskatchewan School Divisions, with a focus on the perspectives of teachers responsible for implementing provincial Core curriculum initiatives. A total of 392 out of a possible 487 teachers in 23 schools responded to a questionnaire. Recommendations for training and employment include: allow teachers to sample materials prior to implementation; provide equal access to teacher-developed resource materials; adjust timelines for implementation to ensure that adequate and material sources are available; and garner the support of personnel at all levels for teacher networks. Administrators should integrate the teacher-supervision process and support for program implementation; facilitate teachers' request for shared planning; support more individualized forms of staff development; and develop, in consultation with teachers, a policy consistent with provincial plans for Core curriculum implementation. Four tables are included. Appendices contain the instrument codebook and statistical data. (Contains 100 references.) (LMI)

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ED 391 220

RESEARCH IN BRIEF

Support Provided For Teachers Implementing CORE Curriculum

SSTA RESEARCH CENTRE REPORT: #95-15 DATE: Nov 1995

This report is a summary of a master's thesis entitled **A Study of the Support Provided For Teachers in Saskatchewan To Implement CORE Curriculum** by Vance Mokelky.

The process of implementing change is extremely complicated, particularly when multiple innovations are being introduced simultaneously, conflicting views exist regarding provincial vs. local priorities and available resources are declining. This study analyzed the implementation process employed in thirteen Saskatchewan School Divisions, from the perspective of teachers responsible for implementing the "Core Curriculum".

The purpose of the research was to determine the value teachers attributed to the support provided by local and provincial personnel. More specifically, this study focused upon actions of personnel within four discrete categories: self-support, support provided by school administration, support provided by central office administration, and support provided by provincial personnel. By clarifying which actions teachers believed were most important and most helpful implementing Core, this research will help to encourage the continuance of effective practices, while suggesting modification of actions perceived to be ineffective or unhelpful.

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INTRODUCTION

Background Information

The following paragraphs are intended to summarize relevant information regarding the development and implementation of the Core Curriculum (Core) in Saskatchewan. Hopefully I will be able to convey the complexity of the situation facing teachers today, by providing an historical context.

A twenty-three member advisory committee titled, The Minister's Advisory Committee on Curriculum and Instruction Review, met for the first time in November, 1981. The purpose of the committee, as defined in the terms of reference, was as follows:

> The Curriculum and Instruction Review was established by the Minister of Education for the purpose of assessing the adequacy of the K-12 programs in meeting the present and future needs of Saskatchewan students (Saskatchewan Education, 1984, p. 69).

Public involvement in the review process was a primary consideration. The opinions of Saskatchewan residents were gathered via: questionnaires -160,000 were distributed to households with school age children; public meetings - 34 were conducted throughout the province; requests for written briefs - 156 were submitted to Saskatchewan Education; and informal gathering of information - via open line radio stations, meetings with groups in the field, and a computer survey conducted at a major teachers' conference (Saskatchewan Education, 1984, p. 13).

The review culminated in a written report titled, Directions: The Final Report, which was published in Feb. 1984. The Directions Report identified 16 recommendations which were intended to focus educational efforts in Saskatchewan. The recommendations of particular relevance to this research were: Recommendation 2 - the adoption of a K-12 Core Curriculum and Recommendation 12 - increase the effectiveness of inservice education. Collaborative planning procedures should be developed for use at the school division level. (Saskatchewan Education, 1984. pp. 7-9)

The Core Curriculum Policy, released in 1987, identified the key components of the Core Curriculum as: the Required Areas of Study, the Common Essential Learnings, the Adaptive Dimension and Locally Determined Options. Foundational Documents were developed to support the implementation of Core Curriculum, in four significant areas: Understanding the Common Essential Learnings (Saskatchewan Education, 1988), Student Evaluation: A Teacher Handbook (Saskatchewan Education, 1991), Instructional Approaches: A Framework for Professional Practice (Saskatchewan Education, 1991) and The Adaptive Dimension in Core Curriculum (Saskatchewan Education, 1992). Policies have also been developed and implemented by Saskatchewan Education in the following areas: Locally Determined Options - 1990, Alternative Education - 1991, Resource-Based Learning - 1987, Gender Equity - 1991, and Indian Metis Education - 1989. Finally, curricula were to have been rewritten, piloted and implemented according to a ten year plan, in all of the required areas of study. The timelines were revised; however, to lessen the demands placed upon curriculum writers, advisory committees, and pilot teachers, while also accommodating funding cutbacks.

It won't be much of a surprise to anyone familiar with the Core implementation that teachers are feeling increased stress, but I believe the degree of stress is particularly relevant. A subcommittee of the K-12 Education Program Policy Advisory Committee concluded in its Review of Directions into Practice: "that the level of stress schools and teachers are experiencing has become counterproductive to the change process " (Saskatchewan Education, 1992, p. 20). Presumably, the conclusion drawn by the subcommittee would have suggested the need to reconsider the type and degree of support being provided for teachers, if successful implementation of Core was to be anticipated. Yet, continuation of the same implementation practices employed at the time of the report would seem to imply either satisfaction with the situation or uncertainty regarding a more appropriate direction. I don't mean to imply that personnel from Saskatchewan Education Training and Employment hadn't anticipated teachers' need for

support. In fact, a year before the Review of Directions Report was released, Neville Hosking, then Director of Curriculum and Instruction with Saskatchewan Education, had acknowledged such a need in his doctoral dissertation. Referring to his responsibility for "dissemination of this new curriculum across the province" he stated:

> Saskatchewan Education's role is one of providing a general level of awareness and knowledge. School divisions and individual schools must be prepared to address the range of specific needs of teachers related to implementation (1990, p. 107).

While unable to verify that this was or continues to be the official position of Saskatchewan Education Training and Employment, provincial personnel with whom I have discussed the implementation process continue to maintain the department's primary responsibility is providing general level awareness through orientation workshops. It is ultimately each school division's responsibility to provide adequate support for teachers within their schools, to implement Core Curriculum.

Most educators acknowledge the potential for Core to enhance student learning. Nevertheless, my interaction with teachers over the past ten years, in the capacity of Superintendent of Instruction and Director of Education, has helped me to understand why many teachers feel overwhelmed, frustrated, ill prepared and highly stressed by the challenges facing them today. Encouraging local autonomy by involving teachers in pilot studies, advisory committees and curriculum implementation workshops has long been a priority within Saskatchewan's educational context. Unfortunately however, this orientation has done little to ensure a consistent level of support for teachers charged with the responsibility of implementing Core.

Purpose of the Study

This study was intended to review the implementation process employed within selected Saskatchewan school divisions, to determine the impact of local and provincial support, from the perspective of teachers responsible for implementing Core Curriculum initiatives. More specifically, this study examined the actions of: the individual teacher -

working with colleagues, school administrators, central office administrators, and provincial personnel, to determine which supports teachers believed were most important and most helpful implementing Core Curriculum (Core).

The Problem

Arguably Core implementation has met with varying degrees of success over the past decade, depending upon the specific innovation undertaken and the site of implementation. I believe that certain initiatives have been implemented more completely than others and some locations have been more successful facilitating change, as a result of the supports provided for teachers. I base my beliefs primarily upon nine years of first hand experience as a Superintendent of Instruction, but those beliefs were further shaped through formal and informal interactions with colleagues who serve a similar function within at least 25 other Saskatchewan school divisions.

The process of implementing change is extremely complicated, particularly when multiple innovations are being introduced simultaneously, conflicting views exist regarding provincial vs. local priorities and available resources are declining. Previous research suggests we have mistakenly confused teacher anxiety and insecurity, associated with a new undertaking (Huberman, 1991), with resistance to change or difficulties with curriculum design. In fact, the real problem may have been failing to recognize the support teachers needed to thoroughly understand the initiative being implemented, thereby constructing "personal meaning" (Fullan, 1991, p. 31).

Assuming that teachers valued the same supports as those of us responsible for overseeing implementation may have been an additional error (Marris, 1975) in judgment. Teachers have a very different set of needs as a result of the isolation imposed by classroom responsibilities. Only by seeking direct feedback from teachers, regarding which actions were most important and most helpful to them in their efforts to implement

Core, can we more adequately provide the support they deem necessary for successful implementation.

Significance of the Study

As we enter the second decade of Core implementation in Saskatchewan another phase of the process begins; namely evaluation of progress and maintenance of successful practice. Clarifying which actions teachers believed were most important and most helpful implementing Core will encourage continuance of effective practices while suggesting modification of actions perceived to be ineffective or unhelpful. Similarly, identification of supports that teachers believed were important, but presently not available, may suggest changes to present practice.

REVIEW OF THE LITERATURE

Introduction

One of the earliest studies influencing my thinking, regarding the implementation of educational change, focused on the dissemination efforts supporting school improvement. The study, titled People, policies and practices: Examining the chain of school improvement, is one of the most comprehensive and relevant studies that I have encountered. In fact, it has been the basis for a great deal of additional writing in the area of implementing change, within the school setting. Stating their conclusions, in volume IV of the report, Huberman and his colleagues most aptly described the significance of the relationship between assistance and implementation of initiatives. They indicated:

> Large-scale, change-bearing innovations live or die by the amount and quality of assistance their users receive once the change process was under way. ... The forms of assistance were various. High-assistance sites set up external conferences, in-sevice training sessions, visits, committee

> structures, and team meetings. They also furnished a lot of ongoing assistance in the form of materials, peer consultation, access to external consultants, and rapid access to central office personnel. ... Although strong assistance did not usually succeed in smoothing the way in early implementation, especially for the more demanding innovations, it pays handsome dividends later on by substantially increasing the levels of commitment and practice mastery. (Huberman et al., 1982 b, p. 465).

Although this study is some thirteen years old it is by no means dated, in my opinion. Many of the understandings and recommendations included in the report continue to provide the foundation for effective implementation of change. This research significantly influenced my decision to investigate the kinds of support that teachers in Saskatchewan believed to be important and helpful implementing Core.

I noted three general findings as a result of my review of the literature: 1) Administrative support is necessary to help teachers cope with change. 2) Teachers actively involved in the implementation process developed a deeper understanding of initiatives and became more committed to change. 3) Restructuring staff development programs to accommodate individual needs provided more support for teachers.

Administrative Support is Necessary to Help Teachers Cope with Change

Shawn Moore's (1984) research for the Scarborough Board of Education in Toronto, Ontario, Canada, accentuates the importance of allowing teachers adequate time to fully understand an initiative. The study, which focused upon the level of use of two new curriculums, revealed that one of the key barriers to implementation was that insufficient time was allowed for reading and internalizing the meaning of the curriculum. Actions taken to enhance teachers' comfort and confidence regarding new innovations are imperative in helping participants to "construct personal meaning" (Fullan, 1991).

As Marris (1975) suggested, supervisors responsible for program implementation will frequently have spent a great deal of time and energy reviewing a specific program before recommending adoption of that program; but unfortunately the teachers

responsible for its implementation often aren't afforded the same opportunity. It has been my experience that rationale for the change, intended outcomes, anticipated benefits and connections with previous initiatives are seldom discussed. Fullan and Steigelbauer spoke to the importance of providing an opportunity for individuals to clarify personal meaning, when they wrote:

> Assume that any significant innovation, if it is to result in change, requires individual implementers to work out their own meaning. Significant change involves a certain amount of ambiguity, ambivalence, and uncertainty for the individual about the meaning of the change. Thus, effective implementation is a process of clarification. (Fullan, 1991, p. 106)

By inference, administrative actions which ensure adequate time to develop a full understanding of initiatives will help teachers cope more effectively with a new innovation.

A significant body of literature, conducted in the early to mid 1980's, acknowledged the uncertainty and anxiety associated with change. Huberman's finding that "Teachers, trainers and administrators all talk of a 'difficult', 'overwhelming' sometimes 'humiliating' experience during the first six months of an innovation and for some during the first two years" (1981, p. 81), provided clear evidence of the need for support in coping with change. Citing a paper titled Transfer of Training, which was presented at the 1983 annual meeting of the American Educational Research Association in Montreal, Fullan (1985) indicated that Beverly Showers corroborated Huberman's findings when she observed that all teachers were initially "stymied by the discomfort of using a strategy awkwardly and unskillfully" and that most uncoached teachers did not get beyond this "difficulty of fit" stage. My professional experience leads me to believe that the issue continues to be a concern today.

By supporting a collaborative environment which encourages risk-taking, experimentation, and growth, administrators can greatly reduce the uncertainty associated with change. A study conducted by Joyce and colleagues (1989) accentuated the importance of the training design to expand the repertoire of teachers' instructional skills.

They noted that changes in the workplace which permitted substantive follow-up activities enabled teachers to develop deep understanding of an initiative and correspondingly high skill levels. Joyce and Showers (1982) had previously demonstrated that a "coaching" process employing extensive observation and feedback by trained observers had resulted in transfer of training, but "coaching" has evolved significantly from the concept they had initially envisioned. One of the more recent adaptations "peer coaching" has proven to be an effective means of developing shared understanding and providing collegial support, while also facilitating transfer of training.

Watson and Kilcher (1990) identified numerous forms of peer coaching intended to support teacher growth. The early emphasis upon classroom observation, data collection and feedback has diminished somewhat; but the potential for peer consultation to provide support for teachers through cooperative planning of units, sharing of expertise and discussion of instructional methodology has received increased attention. Based upon their descriptions of various collegial coaching arrangements, I believe peer coaching has the potential to overcome the isolation teachers experience in their work, while also encouraging shared understanding of initiatives. Judith Warren Little lends credibility to this argument indicating:

> "Patterns of interaction that support mutual assistance or routine sharing may account well for maintaining a certain level of work-force stability, teacher satisfaction and a performance 'floor'." (1990, p. 531)

The fact that few thriving coaching programs exist in Saskatchewan, even though the benefits of such programs are openly espoused, is evidence of the need for administrative support to encourage norms of collegiality. Although Hargreaves (1989) would argue that administrative efforts to encourage coaching programs are in fact evidence of "contrived collegiality", I believe such actions can produce valuable outcomes. In my opinion, Peter Grimmet's (1990) differentiation between "administratively imposed" and "organizationally induced" contrived collegiality is extremely important. If administrative actions are intended to manipulate or control

teacher behavior, for the purpose of advancing a predetermined agenda, they are likely to be of little value changing norms of collegiality. Conversely, if the actions are intended to increase teacher interaction, support sharing of expertise and encourage networking with other professionals, collegiality may be advanced even if it is promoted through administratively contrived actions.

Teachers actively involved in the implementation process developed a deeper understanding of the initiative

Richard Boser (1989) brought forward an argument that at first appears contradictory. He suggested that teacher involvement in agenda setting for state-wide curriculum reform was not essential for successful implementation of technology education programs. Upon closer investigation however, it became readily apparent that teachers participated extensively in the implementation phase of the curriculum reform even though they weren't actively involved in the initial planning phase. Thus the importance of teacher involvement in the implementation process was verified, but the timing of the involvement differed somewhat from previous studies that identified the importance of extensive teacher involvement in the planning process. Michael Fullan (1985, 1991) strengthened Boser's position, cautioning curriculum developers not to expend an excess of energy during the planning phase at the expense of much needed energy for implementation. Fullan clearly believes that ownership for an initiative can evolve as those responsible for implementation work with the innovation, modifying it as necessary to make it more functional in a given situation.

Teachers who haven't had the opportunity to work with an initiative, to experiment with the materials, or to modify the initiative thereby ensuring a match with local needs, will not have been able to construct personal meaning. They may remain uncommitted to the undertaking until they understand it more fully and can use it with a higher degree of confidence and success. It is also important to understand that if the norms associated with a new curriculum aren't internalized, the behavioral changes

associated with the innovation tend to disappear when the support mechanisms are removed (Berman & McLaughlin, 1977; Huberman & Miles, 1984).

If teachers are unable to fully understand new initiatives, and/or are incapable of carrying out the implementation process as intended, they may very well develop inappropriate coping mechanisms to reduce the level of discomfort associated with the new undertaking. As Clark (1986) discovered, teachers who felt that they were uninvolved in the curriculum development process, or who believed that the opportunities for input were insufficient to affect change, tended to cope in a variety of ways. Coping strategies ranged from significantly modifying the innovation to make it more familiar and workable, to "creative nonuse."

Restructuring Staff Development Programs to Accommodate Individual Needs Provided Additional Support For Teachers

Many writers have recognized the link between staff development, organizational culture and effective implementation, but I think Cunninghan and Gresso succinctly captured the impact of that interrelationship. They concluded:

> There is significant proof that staff development and effective implementation of innovations are strongly interrelated. Successful change requires learning how to do something new. The process of change becomes complicated, in that the learner must establish his or her own developmental outcomes, and the work culture shapes the mode by which the employee transfers new behavior. This means that the culture is a primary means of establishing what an employee learns by determining what is to be implemented within the organization (Cunningham, W.P. & Gresso, D.W., 1993, p. 175).

Only through active participation in the staff development process can teachers match their understandings of the organizational culture with the demands of the innovation to be implemented.

Resource allocation is one aspect of staff development that must be given special consideration if in fact we choose to modify the way we support teacher growth throughout their careers. Proposing a "craft" orientation to career development Huberman indicates:

> . . .the shifting of these resources out of the central office has done wonders for the responsiveness of staff development centers, which are redundant if they are not called upon. There is a world of difference between a center which devises and offers courses and one which provides backing for temporary groups of teachers working in a problem space that is collectively meaningful and is usually of some urgency ...Staff development activities that include actual experimentation over time, along with some collection of data before, during and after these attempts, are far more likely to produce durable instructional change. (Huberman, 1992, p. 138)

It seems likely that the concept of a staff development program which considers career stage, interests and personal experience would be widely embraced for its common sense appeal. Yet few school divisions in Saskatchewan have adopted an individualized staff development program which incorporates all of these components.

Huberman's discussion of resource allocation, above, offers two of the most likely reasons why school divisions have been hesitant to assume a more individualized orientation in their staff development programs. First, such action would necessitate a significant redistribution of resources and some administrators are probably less than receptive to the idea. Second a proposal to adjust the function of staff development to accommodate the needs of small groups of teachers, as they become apparent, would not only require restructuring, but also a significant shift in thinking. Planning a cadre of inservice activities, deemed to be useful to teachers on the basis of an annual needs assessments, is certainly much more manageable.

While there is evidence that many school divisions in Saskatchewan have incorporated at least some components of an individualized staff development program, there is obviously room for continued growth in this area. I fully agree with Michael Fullan's position, that "Staff development will never have its intended impact as long as its grafted onto schools in the form of discrete, unconnected projects" (1990, p.21). The potential of staff development will only be realized when specific initiatives become integrated components of a comprehensive implementation plan.

University School Partnerships

Teacher training must be a life-long endeavor if teachers are to be expected to effectively incorporate new instructional methodology, within the context of constantly changing curricula. One example of "inservice training" that can be undertaken to support practicing teachers is school district-university partnerships. Describing the Learning Consortium partnership in Toronto, Canada; Nancy Watson and Michael Fullan indicated that their vision is a collaborative undertaking between the schools and the university. They suggest a joint responsibility for curriculum development and implementation with the schools and university cooperating to prepare teachers, to encourage professional growth, to co-author articles and to conduct research. Describing the partnership in Toronto they indicated:

> "The Learning Consortium was used by school teams and by the systems as a vehicle for school improvement planning and associated professional development. In this way individual professional development needs, school needs, and system needs were increasingly interwoven in an integrated framework" (Watson & Fullan, 1992, p. 234).

I welcome such undertakings, believing that they have the potential to make better connections between theory and practice. For too long curriculum initiatives suggested by university personnel have been dismissed or given a half-hearted attention by practicing teachers because they were impractical. Similarly, on occasion, university personnel have ignored a wealth of empirical knowledge available from experienced teachers because the theoretical and research foundation was lacking. The vast domain of teacher expertise is likely to remain undocumented and inaccessible until teachers become more comfortable with the process of action research. Despite Joyce and his colleagues suggestion that : "... implementation needs to be studied very carefully and follow-up training adjusted according to the results, as part of the action research process" (1993, p. 31); a minimal amount of teacher involvement in the process has been observed in Saskatchewan. At the present time, many teachers lack the research skills to adequately validate their experience in a form acceptable for publication. University

personnel, with their expertise in research design and writing journal articles, could provide a tremendous amount to support for the advancement of field-based research conducted by practising teachers, by encouraging such partnerships.

METHODOLOGY

Site Selection

Student population was a primary consideration in the identification of the school divisions chosen to participate in the study. The number of divisions chosen to represent each student population category was intended to approximate their proportion of the total student population. A stratified sampling procedure ensured: representation from rural and urban communities including: a large urban center with a university; public and Roman Catholic Separate School Divisions (RCSSD's); a school division with a comprehensive school; and two rural school divisions in close proximity to a university.

The sites chosen to participate were selected by means of a stratified sampling procedure which "assured that certain subgroups of the population will be represented in the sample in the proportion to their numbers in the population itself" (Borg and Gall, 1989, p. 224).

Questionnaire Administration

My decision to personally administer the questionnaire on site, in thirteen school divisions geographically dispersed across the province, resulted in a far greater time commitment than would have been anticipated under normal circumstances. But in return, I was able to give special attention to three of the key disadvantages of using questionnaires for data collection (Judd et al. 1991, p.p. 216-217). Administering the questionnaire on site afforded an opportunity to motivate respondents to participate, thereby improving response rates, but most importantly it provided the opportunity to

clarify understanding regarding the correct use of the rating scales. The last point was particularly important in light of the fact a double rating scale was employed.

The Sample Response

A total of 487 teachers in 23 schools were asked to participate in the study. Of that number, 430 (88.3%) attended a portion of a staff meeting or a specially planned meeting where I provided an overview of the research. Principals had been asked to inform teachers that attendance at these meetings was optional and those attending would have an opportunity to view the data collection instrument before deciding whether they wanted to participate in the study. Teachers who volunteered to participate, following this orientation session, were asked to complete a questionnaire.

I was satisfied with the rate of return as 392 teachers completed the questionnaire. This number represented 80.5% of the total sample asked to participate or 91.2% of the teachers who actually attended the orientation meetings. It was very important to have a high rate of return and a relatively large sample because the data analysis planned, wherein mean scores were used to construct the dependent variables, tended to reduce the usable sample for each category.

STATISTICAL ANALYSIS

Individual Item Analysis

The first step in my data analysis was to generate a frequency distribution for each "support" identified. This analysis was undertaken to identify supports the respondents believed to be particularly important or helpful. Another key reason for analyzing the data in this manner was to determine if teachers valued specific supports that weren't presently available.

Three hundred and ninety-two (392) teachers responded to the questionnaire, providing feedback with reference to ninety-six (96) individual items ("supports"). The individual items, derived from the literature and personal experience, were chosen to represent the specific kinds of support that could be provided to help teachers implement Core Curriculum.

Respondents were asked to rate the importance of each questionnaire item, from their own perspective, on a scale from "5" (very important) to "1" (very unimportant) . The respondents were also asked to rate the degree that each item actually helped them implement Core initiatives, again using a scale from "5" (very helpful) to "1" (very unhelpful). In addition, ratings of "PNA" (personally not available) and "NA" (not available) were also used to rate the degree of help provided by each questionnaire item. These ratings would be treated the same as any other rating of "1" (very unhelpful) for the purpose of statistical comparisons. The specific reason the support was unavailable wasn't important from the perspective of statistical comparison, the fact remained the support identified was "very unhelpful" because it wasn't available. However, identifying circumstances where items were highly valued by teachers (high frequency of "5" ratings) but not available (high frequency of "NA" or "PNA" ratings) might suggest areas of support that should be given special consideration. This analysis was undertaken via simple frequency counts.

Tests of Significance

All analysis were performed on a Macintosh computer employing the JMP statistical package from the SAS institute in Cary, N.C. The relationship between seven independent variables and twelve constructed dependent variables was examined.

Independent Variables

The independent variables included:

Loc- school division type as defined by location (large urban/small urban/rural near a university/rural)

Pub- school division type as guaranteed by legislation (Roman Catholic Separate/urban public/rural public near a university/rural public)

Sex- male/female

Pilot- yes/no (Did the teacher pilot a Core Curriculum initiative?)

Lev- elementary only/middle only/secondary only/other combinations or unknown (What grade level has the teacher taught?)

FTE- percentage of full-time-equivalency in present position

Exp - total years of experience

Dependent Variables

Eight dependent variables were constructed by averaging the ratings for "importance to you" and those for "help to you" within each of the four categories of support identified on the questionnaire (self-support, support provided by school administration, support provided by central office administration, and support provided by provincial personnel). The derived scores for the dependent variables included the following:

Importance Measures

SIM- self-support importance measure

AIM- administrative support importance measure

CIM- central office support importance measure

PIM- provincial support importance measure

Help Measures

SKM- self-support help measure

AKM- administrative support help measure

CKM- central office support help measure

PKM- provincial support help measure

Four additional dependent variables were generated to analyze the data. These frustration measures ("F") were constructed by subtracting mean scores for the help from mean scores for the importance, in each of the four categories of support. The four frustration scores so derived included:

Frustration Measures

FS = Frustration score for self support-measures (SIM-SKM = FS)

FA = Frustration score for administrative support measures (AIM-AKM = FA)

FC = Frustration score for central office support measures (CIM-AIM = FC)

FP = Frustration score for provincial support (PIM-PKM = FP)

Each of the twelve constructed dependent variables was analyzed relative to each of the independent variables. For each of the categorical independent variables, either a Wilcoxon or Kruskal-Wallis test was employed depending upon the number of correlated means being compared. The Wilcoxon signed rank test was "Used to determine whether two correlated means differ significantly from each other "(Borg and Gall 1989, p.356). Similarly, the Kruskal-Wallis Test was "Used to determine whether three or more mean scores on a single factor differ significantly from each other" (Borg and Gall 1989, p.356). Both tests generate an approximation of a Chi-square value. A significant Chi-square value for these tests showed that there were significant differences between or among group means.

Each of the dependent variables was also analyzed relative to the two continuous independent variables. In these cases analyses of variance were performed to determine the degree of linear fit between the independent and the dependent variable. For each such analysis, the line yielding the lowest mean square error is plotted above the data points, and the statistical significance of fit is measured by means of an F-test.

FINDINGS

A data summary with regard to the frequency of teacher responses is provided in Tables 1 – 4, titled Frequency Distribution of Individual Supports. A table of frequency distributions is provided for each category of support: self-support, working with colleagues; support provided by school administration; support provided by central office administration and support provided by provincial personnel.

A consistent format will be used for reporting the data within each table. The percentage of teachers sampled who assigned a rating from 1-5 for importance and 1-5, 8 or 9 for help is provided for each item on the questionnaire. The rating scale for "Importance to You" used the following descriptors: "1" – Very Unimportant, "2" – Unimportant, "3" – Marginally Important, "4" – Important, "5" – Very Important. Similarly, the rating scale for "Help to You" employed: "1" – Very Unhelpful, "2" – Unhelpful, "3" – Marginally Helpful, "4" – Helpful, and "5" – Very Helpful. There were two additional options available for the "Help to You" scale, suggested by teachers who participated in the pilot study or field testing of the questionnaire. Respondents were allowed the flexibility of assigning a rating "NA", indicating that the support wasn't available to them. In addition, placing a "P" in front of the "NA" rating indicated the support wasn't available to the individual, through personal choice ("PNA"). These ratings still indicated that the support was "Very Unhelpful" because it wasn't available,

but the reason the support was assigned a rating of "1" or "Very Unhelpful" differed greatly, from a practical vantage point.

There are four additional types of information provided in each table that may require some clarification. First the information deemed to be most noteworthy is presented in the top of the chart and set off from the rest of the data by a space. The value for "N" is fairly self explanatory, indicating the total number of respondents for each item, but the variable descriptors may be less obvious. Each support was assigned a four or five letter descriptor to assist with data interpretation. A "key to the database", identifying the descriptor associated with each questionnaire item, is provided in the appendices (Appendix A). It is basic to understanding the variable descriptors however, that the first letter in each variable (SINI) indicates the category of support and the last letter indicates whether the rating provided is for the "importance to you" (I) or "help to you" (H) scale.

By way of example, the first letter in the descriptor SINI indicates that the variable is categorized as a self-support item ("S" for self-support) and the rating scale under discussion is importance (the last letter is an "I" for importance). The letters "IN" are a cue that respondents will be providing feedback regarding the use of "informal networks". If the same support was being discussed from the perspective of help to the teacher, the variable descriptor would be SINH ("H" indicating help).

There were four categories of support identified for the purpose of this study, therefore each variable will begin with one of four letters indicating the type of support under discussion. The four categories of support include self-support working with colleagues ("S"), support provided by school administration ("A"), support provided by central office administration ("C"), and support provided by provincial personnel ("P").

Table 1. Frequency Distribution of Individual "Supports" for Self-support, Working with Colleagues.

		Ratings as Percentage of N						
Variable	N	1	2	3	4	5	8	9
SINI	382	2.3 %	5.0 %	18.1 %	33.0 %	41.6 %		
SINH	378	3.4	6.6	27.2	27.2	28.0	6.3	1.1
SPCI	367	14.2	15.0	30.8	26.2	13.9		
SPCH	381	10.0	8.1	12.3	16.0	9.4	35.4	8.7
SCIWI	377	4.0	4.8	19.4	35.0	36.9		
SCIWH	382	5.5	7.1	26.2	25.7	24.1	7.1	4.4
SSCWI	343	18.7	15.7	27.4	22.7	15.5		
SSCWH	361	7.5	5.5	11.4	13.0	10.8	26.6	25.2
SSGI	369	10.0	12.7	33.9	29.0	14.4		
SSGH	379	7.1	6.6	21.9	18.7	9.5	32.2	4.0
SSSCI	338	28.4	14.5	25.1	19.5	12.4		
SSSCH	358	11.2	3.1	7.3	5.9	8.1	28.5	36.0
SUCI	344	31.4	15.4	22.7	16.0	14.5		
SUCH	362	10.2	4.4	7.7	8.3	10.2	28.7	30.4

Reviewing the frequency distribution for the descriptors, "SINI/SINH- used informal networks to share information", I noted that a large majority of respondents valued the informal interactions. More importantly however, the teachers sampled indicated the networks helped them implement Core. The fact that just over half of the respondents rated the use of informal networks as "helpful" or "very helpful" indicated that we are moving in the right direction. Nevertheless, the potential of informal networks obviously hasn't been achieved. The challenge for administrators, staff developers and teachers alike, is to more effectively employ informal networks for sharing information and problem solving with colleagues.

The frequency distributions for "SPCI/SPCH - participated in peer coaching", provided some unanticipated findings. Although a large percentage of respondents (35.4%) indicated that peer coaching wasn't available, the majority of teachers (60%) attributed marginal importance or less to peer coaching opportunities. In light of these findings, the lack of opportunity for peer coaching is somewhat less disconcerting.

Perhaps the teachers sampled exhibit limited enthusiasm for coaching activities because they hadn't been given the opportunity to become actively involved. Or, perhaps they have found other means of providing collegial support, without the structure imposed by many peer coaching programs.

I was equally surprised to see that over 25% of respondents indicated that they chose not to participate in subject council workshops (SSCWI/SSCWH). While this finding could imply that approximately one quarter of the respondents decided not to attend the workshops because they didn't anticipate the workshops would meet their needs, it could also indicate that teachers are simply too swamped with other responsibilities to allocate time for such endeavors. Whatever the reason, it seems evident that individuals responsible for planning subject council activities may want to reassess the impact of their efforts. Are the workshops designed in a manner that is best addressing the needs of the teachers for whom they are intended? Conversely, if teachers are too busy to attend the workshops, is the present support provided by subject councils adequate? It is also important to consider why 26.6% of the respondents indicated the workshops weren't available ("NA"). If this finding means that finances weren't provided by boards of education to support workshop attendance, it might suggest that planners of subject council workshops need to consider alternative modes of delivery, to better meet the needs of their membership.

Before contemplating modifications to the present structure however, individuals planning subject council workshops should be aware that respondents differed significantly regarding the importance attached to these workshops, depending upon the location of the school division (Appendix B / SSCWI by Loc). Teachers from both the large urban school division and rural school divisions close to a university assigned substantially lower ratings for the importance of these workshops. Possibly teachers in close proximity to a university value subject council workshops less because they have ready access to a variety of other resources. This would also help to explain why so

many teachers from the large urban school division sampled indicated that subject council workshops were "very unimportant" (over 33%).

The high percentage of respondents (72%) indicating that attendance at a curriculum implementation workshops (SCIWI/SCIWH) , was "important" or "very important" led me to conclude that teachers value these sessions, wanting to see them continued. Nevertheless, finding that close to 25% of respondents indicated the workshops weren't available, were "unhelpful", or "very unhelpful", suggests the need for further investigation. Maybe it is time to consider redesigning the structure or function of the workshops. This might be particularly true for teachers in rural school divisions, as only 28% of respondents rated participation in curriculum implementation workshops as very important in comparison to 50% of respondents from smaller urban school divisions- (Appendix B / SCIWI x Loc).

The additional time required for travel by teachers in rural setting, might be part of the explanation why the respondents assigned lower importance ratings. It has been my experience that rural teachers attending curriculum implementation workshops tend to be very task oriented. One respondent effectively summarized the sentiment of many teachers with whom I have worked, stating "I don't want theory, I want practical help that can be applied in my classroom"(Respondent #117). I have observed that rural teachers tend to be highly critical of activities initiated within a group setting that could have been effectively undertaken individually, at home. For example, I have frequently heard complaints that workshop activities intended to familiarize teachers with the curriculum documents were a waste of time. This is particularly true of teachers who had requested access to curriculum documents prior to the orientation workshops, but were told the materials would not be available until the day of the inservice. Some teachers feel much more comfortable if they have the opportunity to peruse materials at their own pace, in their own way.

Teachers in close proximity to a university may place less importance on summer short courses (SSSCI) for much the same reason as subject council workshops (SSCWI). Perhaps their interest is diminished somewhat because they have ready access to similar opportunities throughout the year. In the same light, it is particularly important to remember that over 40% of respondents from a large urban center with a university, rated attendance at summer short courses as "very unimportant" , in comparison to approximately 20% of respondents from small urban and rural centers (Appendix B / SSSCI x Loc). Possibly the increased importance placed upon summer short courses by teachers in smaller urban and rural centers warrants greater consideration of location when offering theses courses. The data from the frequency distributions may also support special consideration of location, as nearly 65% of respondents indicated summer short courses weren't available (SSCWH).

The very high percentage of respondents indicating that study groups (SSGH) subject council workshops (SSCWH), and university courses (SUCH) were not available, provides additional evidence of the need for increased teacher autonomy regarding their professional development.

Support Provided by School Administration

The items assigned to this category investigated the amount of importance and the degree of help respondents attributed to administrative support at the school level.

The importance of modifying timetables, to provide opportunities for shared planning (ATFPI) was acknowledged by a large majority of the respondents. The benefits to be derived from "joint work" (Judith Warren Little, 1991) supplemented by teachers' desire to avail themselves of such opportunities, warrants special consideration for modifying timetables to accommodate shared planning. I am fully aware of the difficulties associated with timetabling in this manner, particularly in schools with a small

staff component. But perhaps time can be found if the new curricula are viewed as an opportunity to do things differently than we have in the past.

Table 2. Frequency Distribution of Individual "Supports" for Support Provided by School Administration.

		Ratings as Percentage of N						
Variable	N	1	2	3	4	5	8	9
ATFPI	375	9.1 %	6.4 %	16.3 %	35.7 %	32.5 %		
ATFPH	384	10.9	9.1	14.3	13.0	9.1	40.1	3.4
ATPSI	385	3.1	4.7	20.8	40.0	31.4		
ATPSH	386	5.7	9.8	24.6	29.3	14.8	15.0	.8
AELUI	327	34.3	19.3	27.2	14.7	4.6		
AELUH	369	11.9	6.5	9.2	4.1	1.9	56.6	9.8
AIRUI	331	37.2	19.0	28.1	12.7	3.0		
AIRUH	373	13.9	6.4	8.0	4.3	2.1	56.6	8.6
APDUI	345	24.3	13.9	32.2	20.0	9.6		
APDUH	376	10.4	74.4	15.4	10.6	6.6	41.8	7.7
AUPI	349	34.4	20.1	30.1	11.2	4.3		
AUPH	377	14.1	11.7	9.8	5.8	3.2	46.4	9.0
ASBDI	378	4.0	4.5	23.0	38.4	30.2		
ASBDH	376	8.0	8.0	28.7	32.2	9.3	13.6	.3
ACOCI	370	11.9	11.1	24.6	29.5	23.0		
ACOCH	384	7.6	13.3	18.0	18.0	14.6	25.5	3.1
ASEWI	359	18.4	16.2	28.4	23.4	13.6		
ASEWH	378	12.7	12.4	14.8	10.3	5.8	38.6	5.3
AASDI	376	4.5	5.3	28.2	37.8	24.2		
AASDH	380	8.7	11.1	25.5	27.6	10.8	15.3	1.1
APSDI	382	3.4	4.5	20.7	41.6	29.8		
APSDH	388	6.4	9.3	23.7	30.2	20.4	9.3	.8
ALSDI	383	3.1	6.0	23.0	36.3	31.6		
ALSDH	383	5.0	9.9	26.3	31.9	19.8	6.3	.8
APCI	375	14.9	11.7	27.7	25.6	20.0		
APCH	386	9.3	10.1	15.3	11.9	11.1	30.3	11.9
ACCSI	379	13.7	11.6	32.7	29.0	12.9		
ACCSH	381	11.8	15.2	28.9	18.4	9.2	13.9	2.6
AACNI	365	20.8	14.5	28.5	18.4	17.8		
AACNH	383	12.5	10.7	17.2	10.2	6.5	34.5	8.4
ACIII	374	6.2	6.2	32.1	37.7	17.9		
ACIIH	378	8.7	14.0	36.8	19.0	9.5	10.6	1.3

By way of example, if career explorations becomes a significant component of the Life Transitions course, it may be feasible for teachers to find time for shared planning while the students are involved in exploratory activities within the community. Flexible

timetabling is prerequisite to any success in this area. Without the support of school administrators and a willingness to schedule classes so that teachers can "find" opportunities for "joint work", collaborative planning is likely to advance very little.

Elementary teachers are in an excellent position to find creative opportunities for joint planning, given the increased emphasis upon integrated curricula. Unfortunately, their timetables are frequently delimited to a large degree by the actions of school administrators. Scheduling of subjects such as physical education, music, or French language instruction, which require either special facilities or expertise tend to reduce timetabling flexibility. Reduced timetable flexibility in turn diminishes the likelihood of joint planning opportunities. Is it not reasonable to assume that a block or blocks of time could be assigned to the elementary teachers who in turn could determine how to best schedule the specialist's time or book the facilities? Elementary teachers given the opportunity and authority to modify their class schedule will find time for joint planning. At least those teachers who are inclined towards such endeavors will find the time and others may very well prefer another type of interaction with colleagues.

Interactions with teachers, during my ten years of central office experience, have helped me to understand the isolation and frustration that many feel upon being asked to implement Core Curriculum with limited resources and support. Teachers need opportunities to discuss their concerns and share their successes with colleagues. This is part of the process of developing deeper understanding of an initiative (Fullan, 1991, Marris, 1975). Providing time during scheduled meetings for teachers to share information or problem solve regarding concerns (ATPSI/ATPSH) was a support highly valued by teachers as over 70% of the respondents assigned ratings of "important" or "very important". However, noting that almost 30% of the respondents also rated such interactions as "unhelpful", "very unhelpful" or "NA", I surmise the time allocated for discussion of issues related to Core implementation may have been largely symbolic in

nature. In all likelihood limited time was provided for discussion of concerns and little emphasis was placed upon resolving issues that arose.

Additional evidence of the self-imposed isolation of teachers became readily apparent when considering where teachers access information. Initially, findings regarding information sources such as: the Educational Leadership Unit, The Instructional Development and Research Unit, The Professional Development Unit and University Personnel, (AELUI/AELUH, AIRUI/AIRUH, APDUI/APDUH, AUPI/AUPH) left an impression that these organizations were not perceived to be a source of support for teachers implementing Core. The data seemed to indicate that personnel within these organizations were of minimal assistance implementing Core and that teachers attached little importance to the organizations as sources of information. One of three scenarios seemed to be suggested by the data: the organizations were highly ineffective in carrying out their mandate, if in fact they were intended to serve as supports for teachers; the organizations were not intended to support teachers in their implementation efforts; or the organizations must do a more effective job of marketing their services, if they expect to have a significant impact upon the implementation of Core.

Upon closer consideration it seems quite possible that the teachers sampled were simply not familiar with the services provided by these organizations. If one accepts this interpretation, it may be argued that the Sask. Professional Development Unit (SPDU) received the highest ratings because personnel affiliated with the SPDU have been actively involved supporting a series of instructional strategies workshops. The workshops may have given SPDU a higher profile among teachers.

I am not overly familiar with the mandate of SELU, SIDRU, SPDU or university personnel, but the data strongly suggest that if the personnel associated with any of these organizations view themselves in a supportive capacity their perceptions would be at odds with the majority of teachers who responded to the Core Curriculum Questionnaire.

It is apparent from the teachers' responses that role clarification and promotion of the services provided are necessary if these organizations are going to effectively support teachers in the implementation of Core.

The establishment of university/school partnerships has become a working reality in many other circumstances, but in Saskatchewan such partnerships continue to be limited. The success of organizations like SELU and SIDRU is largely attributable to the individual efforts of their executive directors rather than the priority assigned by the affiliated universities. A more flexible orientation is required of Saskatchewan Universities if they are to better accommodate the needs of practicing educators. I have personally observed the gap between theory and practice, being effectively narrowed through university/school partnerships such as The Learning Consortium in Toronto. The time has arrived for university personnel in Saskatchewan to recognize the expertise of practicing educators and to place greater emphasis upon working with teachers to document that vast store of knowledge, on a more regular basis.

Support Provided by Central Office Administration

More than 60% of the teachers who completed the questionnaire believed that "ensuring Core initiatives were key components in the supervision process (CCSI/CCSH)" was marginally important at best. This finding could be interpreted to mean either the supervision process is of so little value that teachers don't anticipate any benefit from ensuring that Core initiatives are key components of the process or that teachers don't believe that Core initiatives are of adequate importance to include discussion regarding Core in the supervision process. Either interpretation presents a challenge for administrators. Focusing attention upon Core initiatives through the supervision process is one way administrators can ensure they remain cognizant of the difficulties facing teachers and that they understand the type of support necessary to help teachers implement Core initiatives.

Table 3. Frequency Distribution of Individual "Supports" for Support Provided by Central Office Administration.

		Ratings as Percentage of N						
Variable	N	1	2	3	4	5	8	9
CRTII	365	4.1 %	5.2 %	14.5 %	34.8 %	41.4 %		
CRTIH	372	10.5	11.6	18.8	14.0	14.0	28.2	3.0
CRTEI	361	6.6	7.8	19.9	31.6	34.5		
CRTEH	369	12.5	13.0	14.3	9.8	6.8	39.0	4.6
CCCSI	366	10.9	16.1	34.4	27.6	10.9		
CCCSH	371	11.9	17.0	30.2	17.5	5.1	15.6	2.7
CRMI	377	2.7	5.0	7.2	27.3	57.8		
CRMH	381	15.2	19.2	20.7	21.2	11.8	10.2	1.6
CRSDI	376	3.5	4.5	13.6	29.0	49.5		
CRSDH	383	10.7	20.6	27.4	20.1	9.1	11.0	1.0
CDPI	385	4.7	10.1	27.8	40.3	17.1		
CDPH	386	8.8	13.0	30.1	26.2	10.6	10.4	1.0
CILII	371	6.5	10.2	32.3	38.3	12.7		
CILIH	378	9.3	14.8	31.2	25.9	6.9	11.3	.5
CCCCI	375	6.9	13.9	30.7	36.0	12.5		
CCCCH	375	12.5	18.1	29.3	19.5	5.3	14.1	1.1
CLSDI	378	6.3	9.7	22.0	39.9	22.0		
CLSDH	381	12.3	11.8	25.7	22.8	12.0	15.0	.3
CMLNI	368	6.3	8.7	28.3	39.7	17.1		
CMLNH	376	9.0	14.1	29.3	19.1	7.7	18.6	2.1
CWPTI	361	6.9	11.1	29.1	36.3	16.6		
CWPTH	364	7.1	16.5	32.7	23.9	12.3	5.8	1.6
CWSDI	358	3.6	5.0	18.2	41.3	31.8		
CWSDH	364	6.9	12.4	28.3	26.9	14.6	9.9	1.1
CSSFI	371	6.5	9.1	20.8	36.9	26.7		
CSSFH	381	10.7	14.7	22.8	16.3	7.6	25.7	2.1
CPCI	371	13.7	11.9	26.7	28.8	18.9		
CPCH	381	11.3	13.6	17.8	11.8	6.6	31.8	7.1
CBPPI	349	12.0	10.0	30.9	32.4	14.6		
CBPPH	365	11.8	12.3	27.9	15.3	5.5	23.3	3.8

Findings regarding supervision appear to be more important than I initially anticipated. Analysis of central office support, from the perspective of school division type (Appendix C / CCCSK x Pub), revealed that teachers in Roman Catholic Separate School Divisions believe integrating the key components of Core in the supervision process was significantly more helpful than respondents in other school divisions. Notably, 39% of the respondents from Roman Catholic Separate school divisions

assigned ratings indicating it was "important" or "very important" that central office administration ensure Core initiatives were key components of the supervision process. By contrast, only 20% of respondents in the other school divisions assigned similar ratings for this descriptor.

These findings raised several interesting questions. Do supervision practices in Roman Catholic Separate School Divisions differ significantly from those in the public school system? Or, do the subtle differences in relationships I perceived, through my informal interactions with staff, in some way account for the variance in ratings? I suggest this is one area that definitely warrants further investigation.

A great deal of concern has been expressed in the media and within education circles, suggesting that inadequate funding has been provided at the provincial level to support an initiative as significant as Core implementation. The data provided by the respondents in this study lends credibility to the argument, at least from a teachers' perspective (PAFI/PAFH- provided adequate funding to implement Core). The fact that close to 54% of the teachers viewed this support as "very important" with another 25% assigning a rating of "important" speaks to the teachers' beliefs regarding the need for adequate funding. Their dissatisfaction with the present level of funding is readily apparent when one notes that nearly 65% of the respondents indicated that adequate funding was "not available", was "unhelpful", or "very unhelpful", as a support for the implementation of Core.

The need for adequate resources to facilitate implementation of major initiatives, is also frequently emphasized in the research literature. Therefore, it came as little surprise when a large majority of the respondents (approximately 80%) indicated it was "important" or "very important" for central office administration to provide adequate resources for materials and staff development (CRMI/CRMH, CRSDI/CRSDH). Once again the respondents indicated their dissatisfaction with the level of resources allocated

with more than 40% stating that adequate funding was "not available", was "unhelpful" or "very unhelpful" supporting Core implementation.

Data analysis also revealed that teachers in public and Roman Catholic School Divisions differ significantly with reference to the amount of help they believe was provided when central office administration "encouraged the Board of Education to develop policy consistent with provincial plans (Appendix C / CBPPK by Pub)" for Core implementation. Approximately 17% of the teachers responding to the questionnaire in RCSSD's compared to 6% or less in public school divisions believed it was "very important" to encourage policy consistent with provincial plans. It would be particularly interesting to compare policy developed in RCSSD's, with that in public school divisions, to determine why a higher percentage of respondents in the Catholic school divisions view this support as "very helpful". Additional analysis of this crosstab revealed a critical finding, from an administrative perspective. Approximately 50% of the respondents in all the school divisions sampled, including Roman Catholic Separate, indicated that central office action that "encouraged the Board of Education to develop policy consistent with provincial plans" was either "unhelpful" or "very unhelpful" implementing Core. I acknowledge that these findings can be interpreted a number of ways, but any of the options generated suggest cause for concern.

The finding could be interpreted to mean that policy hadn't been developed in a manner consistent with Core Curriculum implementation plans. I sincerely hope that this interpretation is in error as it implies that school divisions would be setting their own direction without regard for Saskatchewan Education's plans. It is equally plausible the respondents were indicating that policy had been developed, but it was in fact unhelpful as a support for implementation. If the policy was drafted to address political pressure, thereby providing an image of support rather than addressing practical implementation issues, it would again be perceived as unhelpful as a support for implementation. Another alternative for consideration is that teachers were simply unaware that policy

consistent with provincial implementation plans had been drafted and therefore assigned ratings indicating such policy was unhelpful. This rationalization might provide a small degree of comfort initially, leading us to believe that the low ratings are a matter of communication breakdown rather than inadequate policy development. But would it not be reasonable to assume if policy had been developed that was actually supporting teachers in their efforts to implement Core, teachers would be aware of such policy? Presumably, they would not have assigned ratings indicating the policy was unhelpful in such a circumstance. I would like to offer a final interpretation of the findings. Perhaps teachers don't believe that new policy would be of any help implementing Core regardless of whether or not it was consistent with provincial plans. This interpretation presents the greatest cause for concern. If teachers truly assume that policy regarding Core implementation isn't going to have a direct impact upon them or the students their orientation may be extremely shortsighted. The policies boards enact or fail to enact, may very well influence how successfully teachers implement Core.

Support Provided by Provincial Personnel

It is readily apparent that the teachers sampled would like to continue having trained teacher leaders conduct curriculum implementation workshops (PTTLI) which provide opportunity for interaction with colleagues (PICWI) Over 72% of the teachers who completed the questionnaire indicated these actions were "important" or "very important".

Although pilot teachers viewed the amount of help provided by provincial personnel, significantly different than their colleagues, (Appendix D - PTTLK by Pilot "trained teacher leaders to facilitate school division or regional workshops") , the disparity is understandable. Approximately 40% of the non pilot teachers viewed the workshops as "unhelpful" or "very unhelpful". By comparison, only 22% of pilot teachers shared the perceptions of the classroom teachers. The most obvious reason for

the discrepancy between the ratings of pilot teachers and non pilot teachers might be that pilot teachers, trained to conduct the inservice sessions, were too close to the situation to make impartial judgments. Another explanation for the discrepancy might have been that some of the classroom teachers found the workshops "very unhelpful" (23%) strictly because the pilot teachers conducting the sessions lacked the requisite skills to serve as workshop leaders. While the pilot teachers were exposed to high profile workshop leaders who typically had a great deal of experience presenting to groups, this was not necessarily the background of the pilot teachers who became workshop leaders.

Support Provided by Provincial Personnel

Table 4. Frequency Distribution of Individual "Supports" for Support Provided by Provincial Personnel.

		Ratings as Percentage of N						
Variable	N	1	2	3	4	5	8	9
PAFI	375	5.3%	3.7 %	11.7 %	25.6%	53.6 %		
PAFH	381	27.6	21.5	18.1	11.0	4.7	15.5	1.6
PSMI	376	2.7	3.2	10.6	29.5	54.0		
PSMH	380	19.2	17.6	21.6	11.3	8.4	20.3	1.6
PTTLI	373	3.8	5.9	17.7	33.8	38.9		
PTTLH	384	5.5	16.1	27.1	23.7	11.7	14.1	1.8
PICWI	377	3.2	5.0	16.7	32.9	42.1		
PICWH	383	7.1	11.7	29.0	25.6	13.1	11.2	2.4
PTRMI	370	3.8	4.6	10.0	34.6	47.0		
PTRMH	381	12.1	14.2	21.8	18.1	10.5	21.8	1.6
PACNI	355	17.5	10.7	26.8	23.1	21.9		
PACNH	378	22.0	9.3	9.3	3.7	1.9	46.3	7.7
PPI	377	6.9	13.8	29.7	32.6	17.0		
PPH	379	12.9	14.2	31.7	20.3	8.7	10.6	1.6
PCCCI	375	5.3	12.3	27.2	38.1	17.1		
PCCCH	375	8.8	19.5	31.5	18.7	8.8	11.2	1.6
PGII	371	6.5	10.8	27.0	34.5	21.2		
PGIH	373	14.5	22.3	27.3	16.6	5.9	11.8	1.6
PINI	359	6.4	10.3	28.1	33.9	21.2		
PINH	366	12.3	20.5	31.4	11.7	5.7	16.7	1.6

Assuming that all pilot teachers were interested in serving as teacher leaders, and were capable of conducting curriculum implementation workshops, may have been another erroneous assumption. In fact, some of the teachers with whom I worked clearly indicated that they would have preferred not to conduct workshops. They definitely wanted to be involved in the implementation and piloting process, but only agreed to serve as workshop leaders because that was an expectation upon having been chosen a pilot teacher.

Teacher respondents also indicated that having access to sample materials prior to implementation (PSMI/PSMH) and distributing teacher developed resource materials (PTRMI/PTRMH) were the two most important supports that could be provided by provincial personnel; assigning importance ratings in excess of 83% and 81%, respectively. Interestingly, a similar percentage of teachers indicated that sample materials (20.8%) and teacher developed resource materials (21.8%) were not available. This finding intrigues me because the implementation process, as I understand it, provided access to the resource materials developed, but the means of distribution was left largely to the discretion of regional curriculum coordinators from Saskatchewan Education. The sample materials on the other hand were only available to classroom teachers after curriculum orientation workshops had been conducted.

This finding tends to imply that teachers who wanted access to the sample materials attained them either through pilot teachers or informal networks. Apparently a large percentage of respondents believed that it was not only important to have access to sample materials and/or teacher developed resource materials, but took the necessary initiative to attain the materials.

Regardless of the explanation for the availability of sample materials, these findings reinforce the importance of providing the opportunity for teachers to work with materials, prior to implementation, if they are expected to develop personal meaning (Fullan 1991, Marris 1975). Although Saskatchewan Education has been hesitant to

allow classroom teachers access to sample materials until they have been piloted, it may be time to reconsider the practice. Similarly, a method to distribute teacher developed resource materials should be initiated that would ensure all teachers have ready access to such materials. The practice of having provincial curriculum coordinators decide whether the materials will be distributed and if so in what manner has caused many inconsistencies regarding the availability of teacher developed resources. A consistent procedure should be established so that all teachers are informed what resources are available and understand how they attain the desired materials.

Teacher perceptions regarding the provision of access to a computer network, for the purpose of sharing information with colleagues (PACNI/PACNH), may be one of the most significant findings to be derived from this research. This is particularly true when considering the long term implications for Core. It may appear to be of little consequence that 46% of respondents indicated access to a computer network is "not available", when 55% of the respondents believed this support to be of "marginal importance" or lower. But is it reasonable teachers so readily accept that access was not available, without expressing significant concern? This question prompted me to assume a wider scope when considering the need for a computer network to access information from colleagues.

Discussions regarding an "Evergreen Curriculum", wherein computerized curricula could be updated on a regular basis, have met with no small degree of resistance in some quarters. Although the resistance is espoused to be related to the possible abuse of power that could result and the movement away from a collaborative mode of curriculum development, perhaps the resistance is more basic. Have teachers been adequately prepared to use the technology that is presently available to them or that could be accessible in the near future? Or, are they hesitant to accept changes leading to greater use of computer technology believing they have neither the training to use the technology as intended nor the time to become familiar with the technology, in addition to their

already heavy workload. Computer networking has tremendous potential to support teachers in their efforts to implement Core, but only if they have the confidence and skills to use that technology.

Pilot teachers and non pilot teachers view the help provided by provincial personnel, in a markedly different way (Appendix E- PKM by Pilot). Neither group indicated they were satisfied with the level of support provided, but the average rating of 2.9 assigned by the pilot teachers' was statistically significant in comparison to the average rating of 2.4 assigned by non pilot teachers. Clearly, pilot teachers view the support provided by provincial personnel as more helpful than non pilot teachers.

A number of statistically significant findings were noted upon comparing the perceptions of pilot teachers to non pilot teachers, with reference to the amount of help provided by provincial personnel. Both pilot and non pilot teachers attached similar importance to having provincial personnel provide the philosophy underlying Core initiatives. Yet they varied a great deal, with regard to the degree they perceived the philosophical overview helped them implement Core (Appendix D - PPK by Pilot). Nearly one-half of the pilot teachers sampled (46%) believed the philosophical overview was "helpful" or "very helpful" implementing Core compared to 26% of non pilot teachers. Pilot teachers received greater exposure to the philosophical overview and appear to have internalized the philosophy more completely than their counterparts, as demonstrated by significantly higher ratings for the amount of help they perceive the philosophical overview provided implementing Core. This finding strongly supports the need to allow adequate time for teachers to become familiar with a new curriculum thereby "constructing personal meaning".

Nearly one-half of all the teachers sampled were dissatisfied with the efforts of provincial personnel to review "Core initiatives implemented to identify inservice needs (PINH)", indicating the support was "very unhelpful", "unhelpful" or "not available". Indications that a significantly higher percentage of pilot teachers (approximately 33% in

comparison to 15% of non pilot teachers) viewed the support provided by provincial personnel as "helpful" or "very helpful" (PINK by Pilot-Appendix D), may be a result of the fact that pilot teachers had been actively involved in needs assessments conducted by provincial personnel, following the first day of the awareness workshops. Based upon those interactions with provincial personnel, the pilot teachers would in all likelihood have been more aware of their efforts to review inservice needs.

While there were a great many additional findings that were statistically significant, the scope of this paper only affords the opportunity to report those believed to be most important from a practical vantage point. "Supports" discussed in the conclusions and recommendations are those perceived to have the greatest potential of positively influencing the implementation process, if enacted.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The purpose of this research, as cited from its onset, was to determine which supports teachers perceived to be most important and most helpful implementing Core. Ultimately, I wanted to answer the question, "Are there specific supports which teachers value highly that aren't presently available to support them in their implementation efforts?"

This research identified numerous items where a large percentage of respondents indicated a specific support wasn't available; however, teachers frequently assigned only minimal importance to those items. There were only five items noted where more than 65% of the respondents rated the item as "important" or "very important" with more than 20% of the respondents also indicating the support wasn't available.

In the category "Support provided by school administration", one such support became readily apparent. The teachers sampled believed it was important that school-

based administration "modified timetables to facilitate shared planning (ATFPI)", with over 68% assigning a rating of "important" or "very important". I believe it is worthy of note however, that over 40% of the respondents indicated this support wasn't available (ATFPH). While I acknowledge that it may be difficult to accommodate shared planning, particularly in schools with a small staff complement, the data suggests that this is an area where teachers would appreciate a concerted effort.

The category "Support provided by central office administration" presented two findings that appear to be particularly relevant. The respondents indicated that it was important they be provided "release time for interaction with colleagues (CRTII)" and "release time for experimentation with initiatives (CRTEI)". The fact that over 75% of the respondents believed release time for interaction with colleagues was important is of little surprise, but it was unexpected that over 30% would indicate the opportunity wasn't available. While fewer respondents (just over 65%) assigned ratings of 4 or 5, indicating a high degree of importance, it is interesting to see that over 40% also rated the support as "not available". The discrepancy between the importance assigned to these supports and the large number of teachers who indicate the support is "not available" suggests the need to reassess the type of help provided to teachers implementing Core.

The findings also identify two areas of "Support provided by provincial personnel", that Saskatchewan Training and Employment may deem to be worthy of review. First, the teachers surveyed strongly voiced their belief that they wanted provincial personnel to provide "classroom teachers with sample materials prior to formal implementation (PSMI)". More than 83% of the respondents indicated they valued this action with 54% assigning a rating of "5" for "very important". Similarly, when asked if it was important that provincial personnel "distributed packages of teacher developed resource materials" (PTRMI), over 80% rated the action as important or very important. I found it particularly interesting that approximately 20% of the respondents indicated both of the supports by provincial personnel discussed above, were unavailable. My personal

experience led me to believe the actions of provincial personnel were very different in the two circumstances. It had been my understanding that sample materials were only available to pilot teachers prior to implementation, whereas teacher developed resource materials were distributed freely at the curriculum implementation workshops. I assume the teachers' experiences varied from my own either because they had established informal networks, whereby they had access to sample materials through pilot teachers with whom they worked or because sample materials were distributed in an inconsistent manner from one educational region to another.

Based upon my interactions with teachers throughout the course of this study I suggest a high degree of commitment remains for the principles underlying Core Curriculum. However, the purpose of this research was to identify those actions teachers believed to be most important and most helpful implementing Core. I believe this study has been highly successful in this regard. The findings clearly identify both teacher concerns regarding the support provided, and possible modifications to practice which would better support teachers in their efforts to implement Core. I firmly believe that if the recommendations following are enacted, teachers will be better supported and more effective in their implementation of forthcoming initiatives.

Recommendations

This research identified a number of areas where teachers perceive that important supports were lacking or a greater degree of help could have been provided implementing Core. The purpose of these recommendations is to address those areas where respondents perceived the implementation process could be improved upon.

Special care was taken when generating the recommendations to ensure they were realistic, in light of the financial constraints facing the province. Each recommendation was assigned to specific categories of support, based upon my perception of who would

be most able to assume responsibility for initiating the desired action and incurring the related costs, if the recommendation was enacted.

Three factors were taken into consideration when determining the priority assigned to each of the recommendations: importance of the recommendation, ease with which the recommendation could be undertaken and the costs associated with implementation. The recommendations are listed according to assigned priority within each category of support. I have recorded the recommendations for provincial personnel first believing a greater impact could be anticipated if these recommendations were initiated on a provincial basis.

Recommendations for Saskatchewan Training and Employment

1. **Teachers should be allowed access to sample materials prior to formal implementation.**

   - The majority of respondents indicated it was "very important" to have access to sample materials prior to implementation.
   - Implementation of the Elementary Language Arts Program has previously demonstrated the benefit of allowing teachers to "construct personal meaning" by providing access to sample materials.

2. **Teacher developed resource materials should be copied and distributed in a consistent manner, ensuring that all teachers have equal access.**

   - Teachers strongly voiced their desire to have access to teacher developed resource materials.
   - Assessment and distribution of teacher developed resource materials, by provincial personnel, could ensure quality of the resources and equal accessibility.
   - I speculate that many teachers would view access to resource materials via computer network as a support for Core implementation, only if adequate training was provided to familiarize them with appropriate use of the technology.

3. **Timelines for Core implementation should be adjusted to ensure that adequate financial and material resources are available prior to implementation of each initiative or new curriculum.**

- A very large majority of respondents perceived an inadequate level of funding support for Core implementation.
- The data suggest that greater emphasis should have been placed on reviewing the implementation of Core initiatives provincially; to better identify inservice, financial and material needs .

4. **Teacher networks should be supported by personnel at all levels.**

- Opportunities for informal networking, information exchange and problem-solving with colleagues, were highly valued by teachers who participated in this study.

5. **Agreeing to serve as a workshop leader should not be a determining factor in the decision whether or not a teacher will be selected to pilot a Core Curriculum initiative.**

- Respondents believe it is important for provincial personnel to train teacher leaders to facilitate curriculum implementation workshops, but many teachers don't believe the amount of assistance provided by workshop leaders was adequate.
- Classroom teachers differ from pilot teachers regarding the amount of help they believe provincial personnel provided by training teacher leaders to facilitate curriculum implementation workshops.
- Assuming that those who volunteer to serve as pilot teachers will be appropriate workshop leaders may be a mistake, as they may not be representative of the field. In addition, being willing to serve as a workshop leader doesn't necessarily mean that the individual has the necessary presenting skills to be an effective facilitator.

Recommendations for School-Based and

Central Office Administration

1. **Greater emphasis should be placed upon integrating the teacher supervision process and support for Core implementation.**

- The majority of teachers saw little connection between the supervision process and Core implementation .

2. School administrators should attempt to accommodate teacher requests for shared planning, through timetabling modifications, wherever feasible.

- Respondents believed timetabling efforts to facilitate shared planning were very important, but support in this regard was noted to be unavailable or of marginal assistance in most cases.

3. School division policy and staff development funding should be revised to support more individualized forms of staff development.

- Respondents highly valued the supports identified in the category "self-support"; however, the frequency of responses indicating such supports were not available suggests a definite need to adjust policy and funding to support such endeavors.

- Teachers in small urban and rural school divisions believed the supports such as summer short courses, university courses and subject council workshops, were more important than their colleagues in a large urban centre, and yet a high percentage were unable to participate in these activities. A more individualized orientation to staff development would allow teachers to be more selective regarding the activities that would best support their professional growth.

4. Boards of education should be encouraged to develop policy consistent with provincial plans for Core implementation, in consultation with their teachers.

- Teachers attributed little importance to developing policy consistent with provincial initiatives. As policy drives action within each school division, I believe it is imperative that policy be developed with the intention of supporting provincial plans for Core if implementation, if the integrity of the "Core Curriculum" is to be maintained as envisioned at the provincial level.

- Respondents in the RCSSD's believed that having central office personnel encourage the development of policy consistent with provincial plans was more helpful implementing Core than their counterparts in other school divisions.

Other Recommendations

1. University/School partnerships should be given greater priority.

- Very few respondents viewed university personnel as an important source of information to support Core implementation.

- The Stirling McDowell Foundation affords an excellent opportunity for a wide variety of university/school partnerships.

2. Personnel affiliated with organizations capable of providing professional support or resources for teachers should more actively promote the services available.

- The data strongly suggest a need for SELU, SIDRU, and SPDU to more effectively promote their services.
- The Instructional Strategies Workshops, promoted by The Saskatchewan Professional Development Unit, appear to have increased teacher awareness regarding that organization.

Recommendations for Further Investigation

Relationship issues First, the findings suggest a follow-up study is warranted to determine why the respondents in RCSSD's differ with reference to the amount of help they perceive was provided by incorporating the key components of Core in the supervision process. Is the supervision process in RCSSD's designed differently than that in public school divisions, or does a different relationship exist between teachers and central office administrators that accounts for the discrepancy reported? I also strongly encourage a comparative study of the policies and practices supporting Core implementation, in public and RCSSD's, to determine if significant differences do exist that would explain the higher ratings attributed to help provided by central office administration.

In closing, I wish to emphasize that we have known much about the implementation process and the inservice support necessary to accommodate change, for some time. While I acknowledge there is a definite need to advance understanding through educational research, I believe it is equally or more important to incorporate what we already know through appropriate support mechanisms.

APPENDIX A

KEY TO THE DATA BASE

Key to Mokelky Database

Name	Variable	Categories	Codes
DIV	School Division		1
	Urban		2
			3
			4
	Rural Surrounding City		5
			6
	Rural		7
			8
			9
			10
			11
			12
			13
ID #	Unique Case Identifier		1 - 392
Pub	Public/Roman Catholic	Roman Catholic (2, 3)	1
		Urban Public (1, 4)	2
		Rural Near University (5, 6)	3
		Rural (7 - 13)	4
Loc	Location	Large Urban (1, 4)	1
		Urban (2 - 4)	2
		Rural Surrounding City	3
		Rural	4
Sex	Sex	Male	1
		Female	2
Pilot	Pilot Teacher	Yes	1
		No	2
Exper	Total years of teaching experience		
Exp C	Years of experience, coded	1-3	1
		4-6	2
		7-18	3
		19-30	4
		31+	5
Grades	Grades taught	Elementary (K-5)	1
		Elementary - Middle (K-9)	2
		Elem - Secondary (K-5, 10-12)	3
		Middle (6-9)	4
		Middle - Secondary (6-12)	5
		Secondary (10-12)	6
		K - 12	7

Name	Variable	Categories	Codes
Lev	Grade level	Elementary only	1
		Middle only	2
		Secondary only	3
		Combination, unknown	4
FTE	Full-time equivalent status for present position	Percentage	blank, 40-100
1. SELF-SUPPORT WORKING WITH COLLEAGUES (S variables)			
SINI	Informal network importance	very helpful – very unhelpful	5 - 1
SINH	Infomal networks help	did not participate	9
		not available	8
		very helpful – very unhelpful	5 - 1
SINK	same as SINH but 9 & 8 recoded as 1 (recoding done for each H variable)		5 - 1
SSGI	study group importance		5 - 1
SSGH	study group help		9, 8, 5 - 1
SPCI	peer coaching importance		5 - 1
SPCH	peer coaching help		9, 8, 5 - 1
SCIWI	curriculum implementation workshop importance		5 - 1
SCIWH	curriculum implementation workshop help		9, 8, 5 - 1
SSCWI	subject council workshop importance		5 - 1
SSCWH	subject council workshop help		9, 8, 5 - 1
SSSCI	short summer course importance		5 - 1
SSSCH	short summer course help		9, 8, 5 - 1
SUCI	university class importance		5 - 1
SUCH	university class help		9, 8, 5 - 1
SIM	Mean of S...I scores		5 - 1
SKM	Mean of S...K scores		5 - 1
FS	SIM - SKM		-4 to +4
2. SUPPORT PROVIDED BY SCHOOL ADMINISTRATION (A variables)			
ATFPI	timetables to facilitate planning importance		5 - 1
ATFPH	timetables to facilitate planning help		9, 8, 5 - 1
ASBDI	teacher participation in decisions at school importance		5 - 1
ASBDH	teacher participation in decisions at school help		9, 8, 5 - 1
ATPSI	teachers problem solve meeting time importance		5 - 1
ATPSH	teachers problem solve meeting time help		9, 8, 5 - 1
ACOCI	central office consultants importance		5 - 1
ACOCH	central office consultants help		9, 8, 5 - 1
ASEWI	Sask education curriculum writers importance		5 - 1
ASEWH	Sask education curriculum writers help		9, 8, 5 - 1
AELUI	Education Leadership Unit importance		5 - 1
AELUH	Education Leadership Unit help		9, 8, 5 - 1
AIRUI	Instructional Development and Research Unit importance		5 - 1

Name	Variable	Codes
AIRUM	Instructional Development and Research Unit help	9, 8, 5 - 1
APDUI	Professional Development Unit importance	5 - 1
APDUH	Professional Development Unit help	9, 8, 5 - 1
AUPI	University personnel importance	5 - 1
AUPH	University personnel help	9, 8, 5 - 1
AASDI	needs assessments staff development importance	5 - 1
AASDH	needs assessments staff development help	9, 8, 5 - 1
APSDI	planning for staff development importance	5 - 1
APSDH	planning for staff development help	9, 8, 5 - 1
ALSDI	local inservice activities importance	5 - 1
ALSDH	local inservice activities help	9, 8, 5 - 1
APCI	peer coaching importance	5 - 1
APCH	peer coaching help	9, 8, 5 - 1
ACCSI	core initiatives key components of supervision importance	5 - 1
ACCSH	core initiatives key components of supervision help	9, 8, 5 - 1
AACNI	access to computer network importance	5 - 1
AACHN	access to computer network help	9, 8, 5 - 1
ACIII	familiarized with core initiatives implemented importance	5 - 1
ACIIH	familiarized with core initiatives implemented help	9, 8, 5 - 1
AIM	Mean of A...I scores	5 - 1
AKM	Mean of A...K scores	5 - 1
FA	AIM - AKM	-4 to +4
3. SUPPORT PROVIDED BY CENTRAL OFFICE ADMINISTRATION (C variables)		
CDPI	communicated division priorities importance	5 - 1
CDPH	communicated division priorities help	9, 8, 5 - 1
CILII	integrated local initiatives importance	5 - 1
CILIH	integrated local initiatives help	9, 8, 5 - 1
CCCCI	clarifying connections between Core components importance	5 - 1
CCCCH	clarifying connections between Core components help	9, 8, 5 - 1
CLSDI	local staff development importance	5 - 1
CLSDH	local staff development help	9, 8, 5 - 1
CRTII	release time to facilitate colleague interaction importance	5 - 1
CRTIH	release time to facilitate colleague interaction help	9, 8, 5 - 1
CRTEI	release time for initiative experimentation importance	5 - 1
CRTEH	release time for initiative experimentation help	9, 8, 5 - 1
CMLNI	modification of Core to meet local needs importance	5 - 1
CMLNH	modification of Core to meet local needs help	9, 8, 5 - 1
CWPTI	workshops including presentation of theory importance	5 - 1
CWPTH	workshops including presentation of theory help	9, 8, 5 - 1
CWSDI	workshops including skill demonstration importance	5 - 1
CWSDH	workshops including skill demonstration help	9, 8, 5 - 1

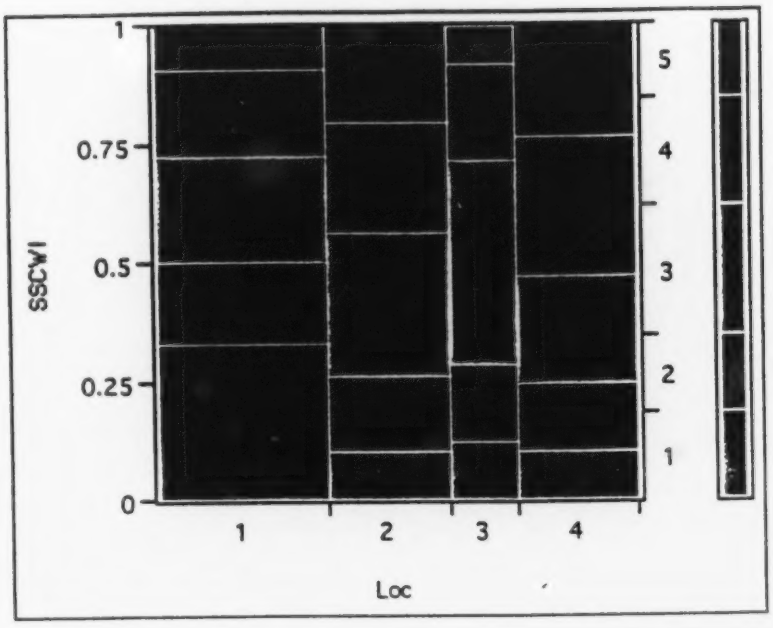
Name	Variable	Codes
CSSFI	practice in safe structured environment for feedback importance	5 - 1
CSSFH	practice in safe structured environment for feedback help	9, 8, 5 - 1
CPCI	participation in peer coaching importance	5 - 1
CPCH	participation in peer coaching help	9, 8, 5 - 1
CBPPI	encouraged Board policy consistent w/ provincial plans importance	5 - 1
CBPPH	encouraged Board policy consistent w/ provincial plans help	9, 8, 5 - 1
CCCSI	core initiatives key components in supervision importance	5 - 1
CCCSH	core initiatives key components in supervision help	9, 8, 5 - 1
CRMI	adequate resource allocation for materials importance	5 - 1
CRMH	adequate resource allocation for materials help	9, 8, 5 - 1
CRSDI	adequate resources for staff development importance	5 - 1
CRSDH	adequate resources for staff development help	9, 8, 5 - 1
CIM	Mean of C...I scores	5 - 1
CKM	Mean of C...K scores	5 - 1
FC	CIM - CKM	-4 to +4
4. SUPPORT PROVIDED BY PROVINCIAL PERSONNEL (P variables)		
PPI	introduced underlying philosophy importance	5 - 1
PPH	introduced underlying philosophy help	9, 8, 5 - 1
PCCCI	clarified relations between Core components importance	5 - 1
PCCCH	clarified relations between Core components help	9, 8, 5 - 1
PGII	plan to guide implementation provincially importance	5 - 1
PGIH	plan to guide implementation provincially help	9, 8, 5 - 1
PINI	identify Core inservice needs importance	5 - 1
PINH	identify Core inservice needs help	9, 8, 5 - 1
PAFI	provided adequate funding importance	5 - 1
PAFH	provided adequate funding help	9, 8, 5 - 1
PSMI	provided sample materials importance	5 - 1
PSMH	provided sample materials help	9, 8, 5 - 1
PTTLI	trained teacher leaders importance	5 - 1
PTTLH	trained teacher leaders help	9, 8, 5 - 1
PICWI	provided interaction with colleagues at workshops importance	5 - 1
PICWH	provided interaction with colleagues at workshops help	9, 8, 5 - 1
PTRMI	distributed teacher resource materials importance	5 - 1
PTRMH	distributed teacher resource materials help	9, 8, 5 - 1
PACNI	access to computer network importance	5 - 1
PACNH	access to computer network help	9, 8, 5 - 1
PIM	Mean of P...I scores	5 - 1
PKM	Mean of P...K scores	5 - 1
FP	PIM - PKM	-4 to +4

APPENDIX B

INDIVIDUAL ASSOCIATIONS

Self-Support variables compared by school division type (Loc)

SSCWI By Loc



Crosstabs

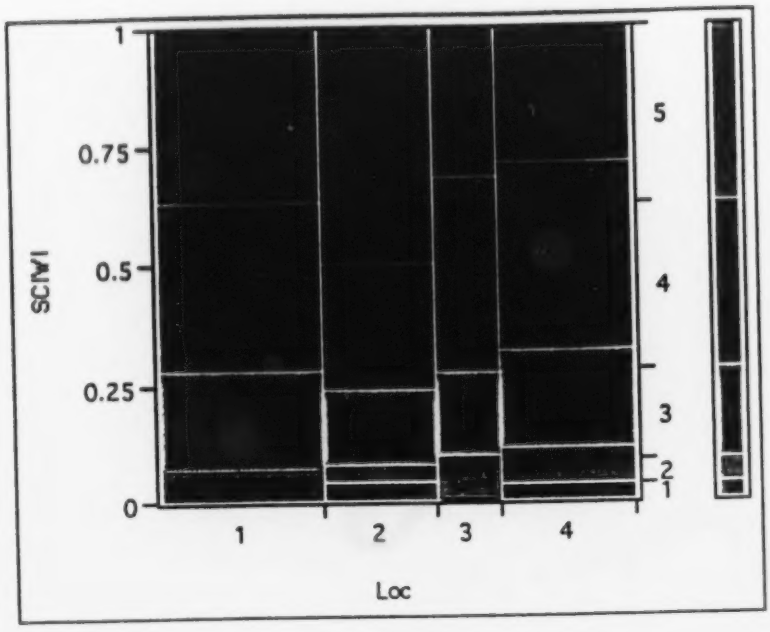
SSCWI Count Col %	Loc 1	2	3	4	
1	40	9	6	9	64
	33.33	10.11	12.24	10.59	
2	20	14	8	12	54
	16.67	15.73	16.33	14.12	
3	27	27	21	19	94
	22.50	30.34	42.86	22.35	
4	22	21	10	25	78
	18.33	23.60	20.41	29.41	
5	11	18	4	20	53
	9.17	20.22	8.16	23.53	
	120	89	49	85	343

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	12	19.46238	0.0358
Error	327	523.98704	
C Total	339	543.44942	
Total Count	343		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	38.925	0.0001
Pearson	40.480	0.0001

SCIWI By Loc



Crosstabs

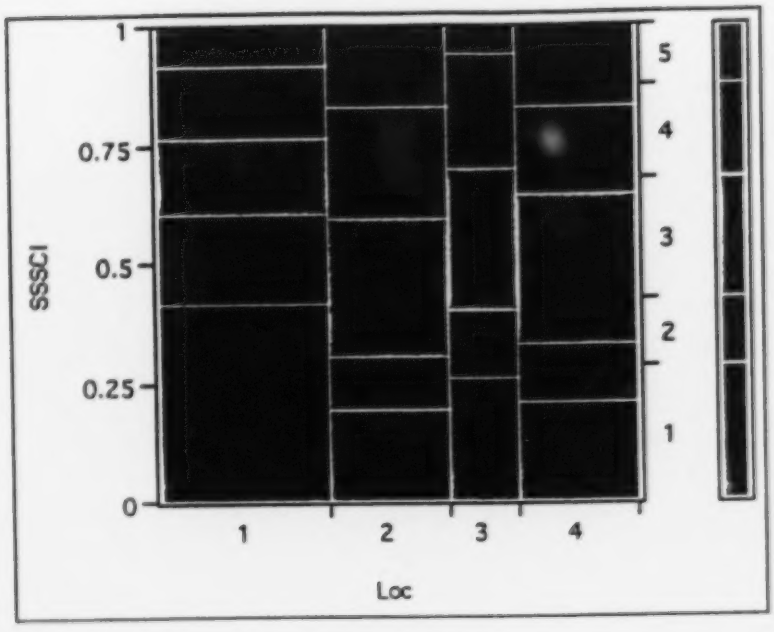
SCIWI Count Col %	Loc 1	2	3	4	
1	7	4	0	4	15
	5.47	4.35	0.00	3.77	
2	2	3	5	8	18
	1.56	3.26	9.80	7.55	
3	27	15	9	22	73
	21.09	16.30	17.65	20.75	
4	45	24	21	42	132
	35.16	26.09	41.18	39.62	
5	47	46	16	30	139
	36.72	50.00	31.37	28.30	
	128	92	51	106	377

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	12	11.69651	0.0234
Error	361	488.48721	
C Total	373	500.18372	
Total Count	377		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	23.393	0.0246
Pearson	21.350	0.0455

SSSCI By Loc



Crosstabs

SSSCI	Loc				
Count	1	2	3	4	
Col %					
1	49	17	13	17	96
	41.53	19.32	26.00	20.73	
2	22	10	7	10	49
	18.64	11.36	14.00	12.20	
3	19	25	15	26	85
	16.10	28.41	30.00	31.71	
4	18	21	12	15	66
	15.25	23.86	24.00	18.29	
5	10	15	3	14	42
	8.47	17.05	6.00	17.07	
	118	88	50	82	338

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	12	14.37648	0.0272
Error	322	513.81172	
C Total	334	528.18820	
Total Count	338		

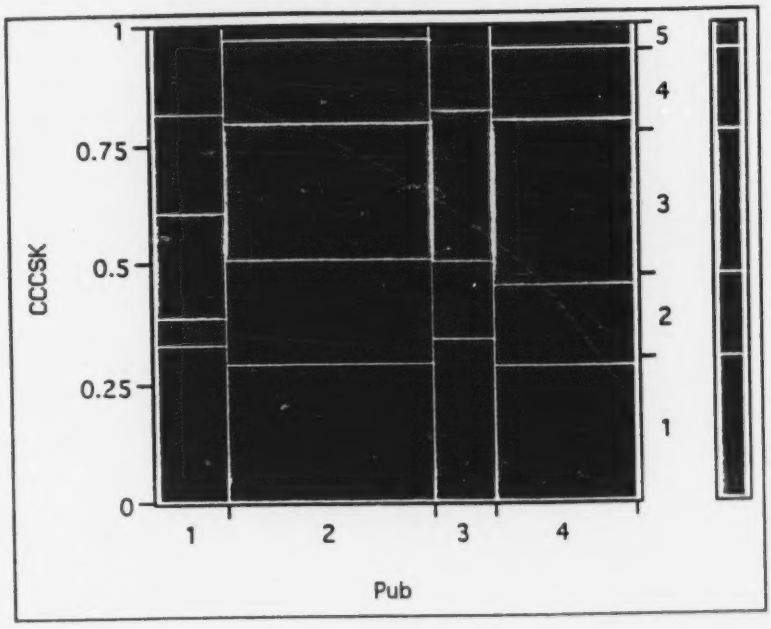
Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	28.753	0.0043
Pearson	28.507	0.0047

APPENDIX C

INDIVIDUAL ASSOCIATIONS

Central Office Support variables compared by school division type (Pub)

CCCSK By Pub



Crosstabs

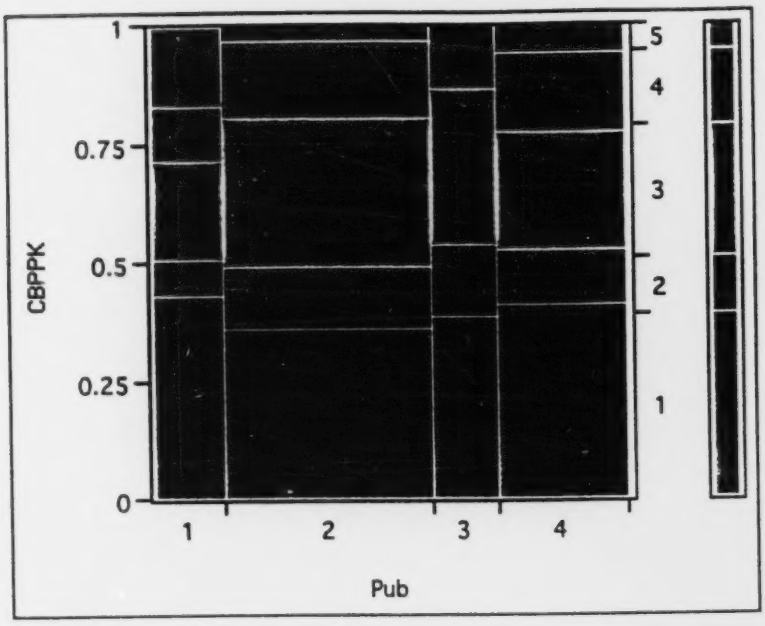
CCCSK	Pub				
Count	1	2	3	4	
Col %					
1	18	46	17	31	112
	33.33	29.11	34.00	28.44	
2	3	34	8	18	63
	5.56	21.52	16.00	16.51	
3	12	46	16	38	112
	22.22	29.11	32.00	34.86	
4	11	28	9	17	65
	20.37	17.72	18.00	15.60	
5	10	4	0	5	19
	18.52	2.53	0.00	4.59	
	54	158	50	109	371

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	12	14.79626	0.0269
Error	355	534.87396	
C Total	367	549.67022	
Total Count	371		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	29.593	0.0032
Pearson	32.843	0.0010

CBPPK By Pub



Crosstabs

CBPPK	Pub				
Count	1	2	3	4	
Col %					
1	23	57	20	42	142
	43.40	36.08	38.46	41.18	
2	4	21	8	12	45
	7.55	13.29	15.38	11.76	
3	11	49	17	25	102
	20.75	31.01	32.69	24.51	
4	6	26	7	17	56
	11.32	16.46	13.46	16.67	
5	9	5	0	6	20
	16.98	3.16	0.00	5.88	
	53	158	52	102	365

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	12	10.76034	0.0206
Error	349	510.59337	
C Total	361	521.35371	
Total Count	365		

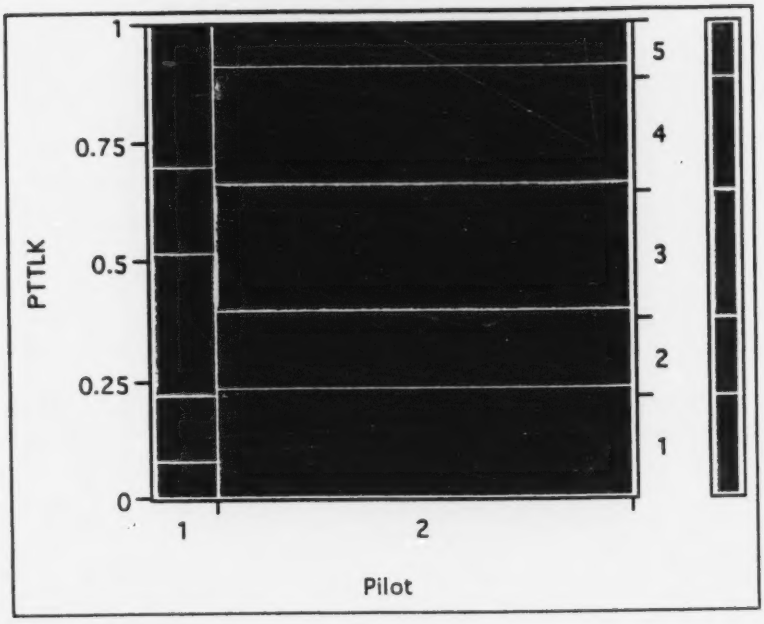
Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	21.521	0.0433
Pearson	22.765	0.0298

APPENDIX D

INDIVIDUAL ASSOCIATIONS

Provincial Support variables compared on the basis of the perceptions of pilot and non pilot teachers (Pilot)

PTTLK By Pilot



Crosstabs

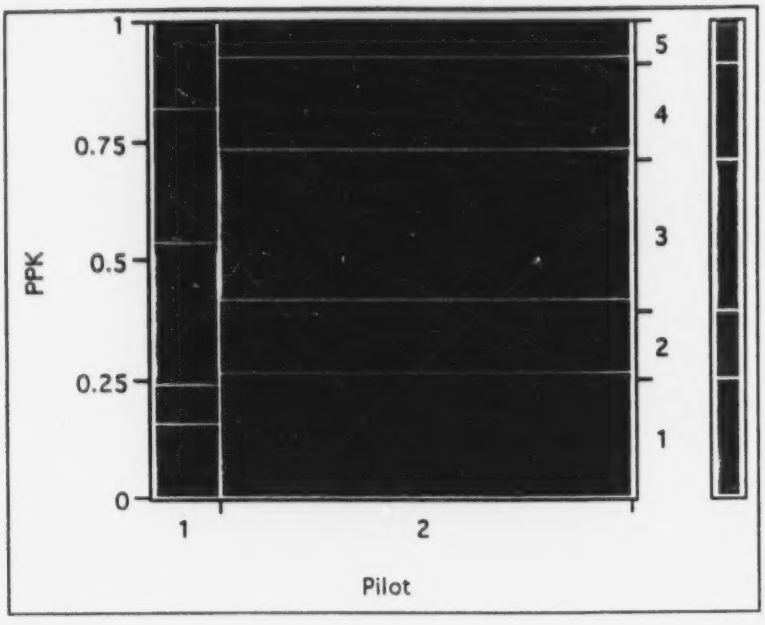
PTTLK	Pilot		
Count	1	2	
Col %			
1	4	78	82
	8.00	23.35	
2	7	55	62
	14.00	16.47	
3	15	89	104
	30.00	26.65	
4	9	82	91
	18.00	24.55	
5	15	30	45
	30.00	8.98	
	50	334	384

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	4	9.77173	0.0162
Error	376	593.23702	
C Total	380	603.00875	
Total Count	384		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	19.543	0.0006
Pearson	22.327	0.0002

PPK By Pilot



Crosstabs

PPK	Pilot		
Count	1	2	
Col %			
1	8	87	95
	16.00	26.44	
2	4	50	54
	8.00	15.20	
3	15	105	120
	30.00	31.91	
4	14	63	77
	28.00	19.15	
5	9	24	33
	18.00	7.29	
	50	329	379

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	4	5.05691	0.0087
Error	371	572.88909	
C Total	375	577.94600	
Total Count	379		

Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	10.114	0.0386
Pearson	10.903	0.0277

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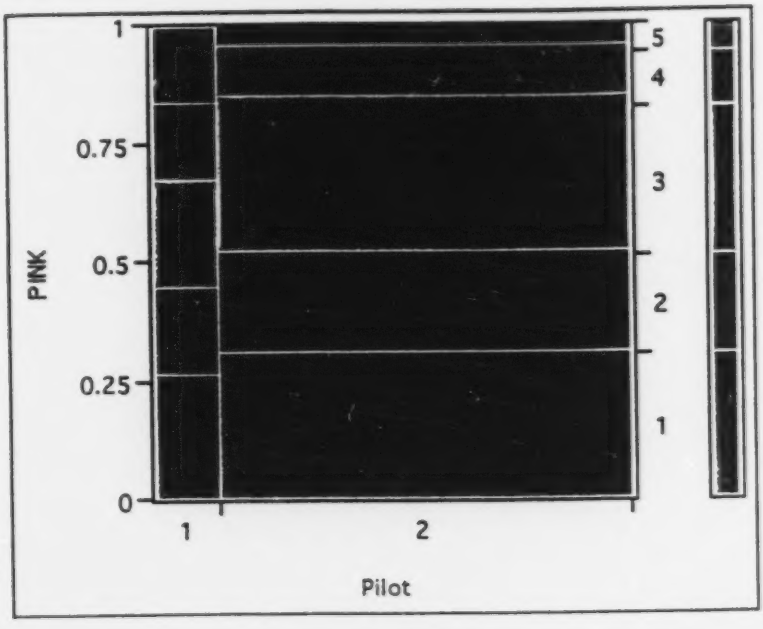
PINK By Pilot



Crosstabs

PINK	Pilot		
Count	1	2	
Col %			
1	13	99	112
	26.53	31.23	
2	9	66	75
	18.37	20.82	
3	11	104	115
	22.45	32.81	
4	8	35	43
	16.33	11.04	
5	8	13	21
	16.33	4.10	
	49	317	366

Tests

Source	DF	-LogLikelihood	RSquare (U)
Model	4	5.47502	0.0102
Error	358	531.27153	
C Total	362	536.74655	
Total Count	366		

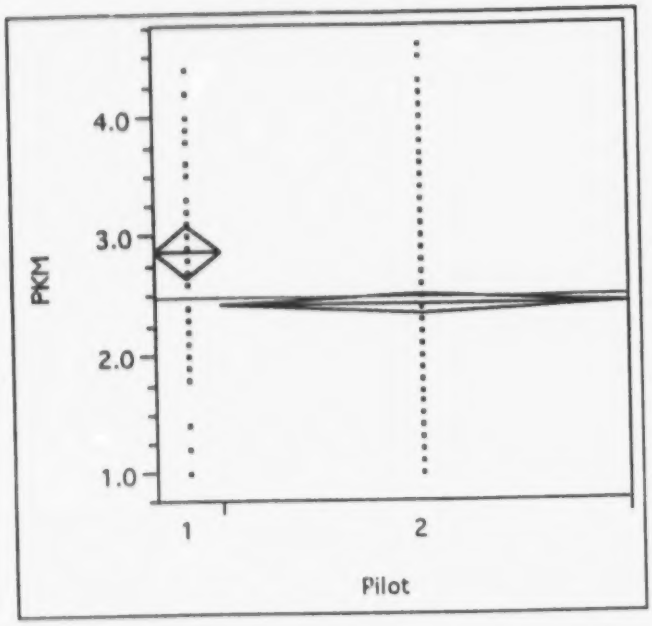
Test	ChiSquare	Prob>ChiSq
Likelihood Ratio	10.950	0.0271
Pearson	13.945	0.0075

APPENDIX D

COMPOSITE ASSOCIATIONS

Provincial Support Measure (PKM) compared on the basis of the perceptions of pilot and non pilot teachers (Pilot)

PKM By Pilot



Means and Std Deviations

Level	Number	Mean	Std Dev	Std Err Mean
1	48	2.86458	0.889056	0.12832
2	302	2.41755	0.801985	0.04615

Wilcoxon / Kruskal-Wallis Tests (Rank Sums)

Level	Count	Score Sum	Score Mean	(Mean-Mean0)/Std0
1	48	10614.5	221.135	3.366
2	302	50810.5	168.247	-3.366

2-Sample Test, Normal Approximation

S	Z	Prob>|Z|
10614.5	3.36632	0.0008

1-way Test, Chi-Square Approximation

ChiSquare	DF	Prob>ChiSq
11.3373	1	0.0008

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